REMARKS

Claims 1-23 are all the claims pending in the application. By this Amendment,

Applicants add new claims 15-23.

Preliminary Matters

The Examiner has still not initialed the references cited in the IDS filed July 29, 2003

despite the Applicants' requests in the Amendment filed July 11, 2007 and the Response filed

January 9, 2008. **As such, Applicants again respectfully request the Examiner to indicate**

that the July 29th IDS has been considered when responding to the current Office Action.

Allowable Subject Matter

Applicants acknowledge the Examiner's indication that claims 2 and 7-10 would be

allowable if rewritten in independent form. However, Applicants respectfully request the

Examiner to hold in abeyance such rewriting of these claims until the Examiner has had an

opportunity to reconsider and withdraw the rejection of the other claims in view of the

Applicants' arguments presented below.

Claim Rejections – 35 U.S.C. § 102

Claims 1 and 3 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by

U.S. Patent No. 6,650,776 to Ihara *et al.* ("Ihara"). Applicants note that Ihara does not qualify as

prior art under 35 U.S.C. § 102(b), and submit that the response to the rejection is made based on

the assumption that the rejection is being made under the proper subsection of 35 U.S.C. § 102.

Accordingly, for *at least* the following reasons, Applicants respectfully traverse the rejection.

Applicants submit that claim 1 is not anticipated by Ihara. For example, claim 1 relates to an image processing method. The image processing method comprises, *inter alia*, generating object regions <u>by dividing an image into objects</u>, and generating a plurality of block regions each having a predetermined number of pixels and having a smaller area than any one of the object regions by dividing each of the generated object regions. <u>Types of the respective block regions are recognized</u>. Thereafter, an occurrence frequency of each of the types of the respective block regions in each of the object regions is totaled. The type of each of the object regions is then recognized <u>based on a result of the totaling</u>.

It is alleged in the Office Action that Ihara, in FIGS. 3, 13A, and 13B, along with col. 9, lines 21-32 and col. 16, lines 23-35 discloses all the above-noted features of claim 1 in as complete detail as set forth in the claim. See Office Action, page 3, paragraph 2. Applicants respectfully disagree.

For instance, Ihara fails to disclose generating object regions by dividing an image into objects as claimed. Ihara is directed to a two-dimensional bar code recognition processing method (Ihara, Abstract, col. 2, lines 18-35). The two-dimensional bar code (101 in FIG. 1, and combination of 201 and 202 in FIGS. 2 and 3) includes a logo mark part 201 and a code part 202 (Ihara, col. 4, lines 19-39). In Ihara's method, binary data is generated from image information of the two-dimensional bar code 101 (FIG. 13A, operation S2, col. 9, lines 21-32). Next, a reference cell (the logo mark part 201) serving as a reference in recognizing the code part 202 is detected based on the generated binary data (FIG. 13B, operation S10, col. 10, lines 38-41, also see col. 5, line 64 to col. 6, line 8). Then, corner cells, each of which is located in a predetermined search range with respect to the logo mark part 201, are detected on the basis of

the generated binary data (FIG. 13B, operation S12, col. 12, line 67 to col. 13, line 4, also see

col. 5, lines 18-35). Lastly, the bar code data 202 assigned to the two-dimensional code 101 is

detected, wherein the bar code data exists inside an area of a code part 202 enclosed by the

reference cell 201 and by the corner cells on the basis of the generated binary data (FIG. 13B,

operations S13-S15, col. 14, line 54 to col. 15, line 49, also see col. 5, lines 35-45).

In summary, Ihara discloses detecting a position of a logo mark part 201 of a scanned

two-dimensional bar code, and then obtaining the code part 202 of the subject two-dimensional

bar code based on the detected position of the logo mark part 201. Ihara's method never <u>divides</u>

the scanned two-dimensional barcode into a logo mark part 201 and the code part 202, as

asserted in the Office Action. In fact, there is no need for performing such a division in Ihara

since the bar code reader expects the input bar code to be already divided into two parts in

accordance with "Sony's unique two-dimensional code system" called "CyberCode" (Ihara, col.

4, line 39 to col. 5, line 3).

Moreover, Applicants submit that Ihara doesn't disclose recognizing the <u>types of the</u>

<u>respective block regions</u>, or recognizing the <u>type of each of the object regions</u> based on a result

of the totaling. As noted above, Ihara's bar code reader is already aware of the two components

of the scanned two-dimensional bar code, namely the logo mark part 201 and the code part 202.

That is, even if these two components are interpreted as 'objects' as proposed in the Office

Action, the bar code reader already knows what <u>type</u> of objects the two components are, and

there is no need to perform a step of recognizing them, particularly based on a result of the

claimed totaling step.

Furthermore, Applicants submit that the recognizing a type of the code in Ihara does not

disclose recognizing the type of each of the object regions based on a result of the totaling of the

occurrence frequency of each of the types of the respective block regions in each of the object

regions. It is asserted in the Office Action that operation S14 in FIG. 13B, and col. 16, lines 23-

35 disclose this feature (Office Action, page 3, last paragraph under claim 1 rejection).

However, the type of the code is not determined based on a number of a particular type of blocks

in the code part 202. Rather, it is based on a location of the blocks within the code part 202. In

operation S14 in FIG. 13B, a code data verification process is carried out (after detecting the

code part 202 based on the detected position of the logo mark part 201). Detailed steps of the

process in operation S14 are shown in FIG. 19 (Ihara, col. 14, lines 54-61). As shown in FIG.

19, none of the steps carry out any totaling of an occurrence frequency of the types of the

respective block regions in the code part. Instead, the detected code part is verified against the

check data, which is also present in the code part (Ihara, col. 14, line 63 to col. 15, line 25, also

see col. 5, lines 35-45). Totaling the occurrence frequency cannot be the basis for determining

the type of the code since two bar codes may have the same number of black pixels but have

different values based on the location of the black pixels therein. For example, in FIGS. 5A-5D,

the different two-dimensional bar codes in the fifth column, the seventh column, and the eighth

column all have the same number (21) of black pixels (excluding the corner cells since they do

not constitute data – col. 5, lines 38-40).

In addition, Ihara fails to teach or suggest the object regions as claimed. In particular,

the target of analysis in Ihara is different from the claimed object regions. For instance, as

discussed above, a two-dimensional barcode (101 in FIG. 1, and combination of 201 and 202 in

FIGS. 2 and 3) includes two regions (a logo region 201 and a code region 202), and these two

regions are the targets of analysis. In other words, in Ihara the targets of analysis are two-

dimensional or artificial printed objects, which are not natural images. In contrast, in the present

invention as claimed, the target of analysis is a natural image, wherein the natural images

comprise an image of a sky, a tree, or a building (e.g., see new claims 19-22, which are

supported by *at least* page 36, line 21 to page 38, line 11 of the Specification where examples of

natural images such as the sky or a tree are disclosed in relation to a non-limiting embodiment).

In view of the foregoing, Applicants respectfully submit that Ihara cannot anticipate

claim 1. Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. § 102(b)

rejection.

Claim 3 recites features similar to those discussed above with respect to claim 1.

Therefore, claim 3 is patentable for *at least* reasons similar to, but not necessarily coextensive

with, those given above with respect to claim 1.

Claim Rejections – 35 U.S.C. § 103

Claims 4 and 6 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable

over Ihara in view of U.S. Patent No. 4,731,859 to Holter *et al* ("Holter").

Claims 4 and 6 depend from claim 3. Since Holter does not cure the deficient teachings

of Ihara with respect to claim 3, claims 4 and 6 are patentable *at least* by virtue of their

dependency.

Claim 5 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ihara

in view of U.S. Patent No. 6,418,238 to Shiratani *et al.* ("Shiratani"). See Office Action, page 5,

paragraph 5. Applicants note that claim 5 depends from claim 4, which is rejected based on

Ihara and <u>Holter</u>. Holter is not mentioned in the statement rejecting claim 5. <u>Therefore, the</u>

<u>rejection is improper.</u>

In addition, claim 5 depends from claim 3. Since Shiratani does not cure the deficient

teachings of Ihara and Holter with respect to claim 3, claim 5 is patentable *at least* by virtue of

its dependency.

Claims 11 and 12 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable

over Ihara in view of U.S. Patent No. 7,039,232 to Nagarajan *et al.* ("Nagarajan").

Claims 11 and 12 depend from claim 1 and 3. Since Nagarajan does not cure the

deficient teachings of Ihara with respect to claims 1 and 3, claims 11 and 12 are patentable *at*

least by virtue of their dependency.

Claims 13 and 14 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable

over Ihara in view of U.S. Patent No. 6,603,877 to Bishop.

Claims 13 and 14 depend from claim 1 and 3. Since Bishop does not cure the deficient

teachings of Ihara with respect to claims 1 and 3, claims 13 and 14 are patentable *at least* by

virtue of their dependency.

New claims

New claims 15-18 are patentable *at least* by virtue of their dependency. Moreover, the

prior art of record does not teach or suggest that prior to the generating the object regions by

dividing the image into the objects, sizes of the objects are unknown as set forth in claims 15 and

17. On the contrary, Ihara discloses detecting the reference cell, i.e., the logo mark part 201 based on its known size (Ihara, col. 6, lines 4-8, col. 10, line 37 to col. 11, line 30, and FIG. 16).

The prior art of record also does not teach or suggest that the predetermined number of pixels is a plurality of pixels, and the recognizing the types of the respective block regions comprises extracting at least a color component representing a color among at least red, blue, or green of each of the plurality of the block regions, wherein the color component is extracted based on the plurality of the pixels within each of the plurality of the block regions, and recognizing the types of the respective block regions based on at least the extracted color component as required by claims 16 and 18. Rather, Ihara discloses detecting the logo mark part 201 and the code part 202 based on detection of black and/or white pixels.

Further, as submitted above with respect to claim 1, Ihara does not teach or suggest that the object regions are natural images, much less teach or suggest that the natural images comprise an image of a sky, a tree, or a building as recited in claims 19-22.

New claim 21 is patentable for *at least* reciting features similar to those discussed above with respect to claim 1, which as discussed above, are not anticipated by Ihara.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue

Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any

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